IN THE CLAIMS:

Please **CANCEL** claims 2, 9, 11-13, 14, 23, 24, 26 as follows.

Please **AMEND** claims 1, 5, 6, 7, 8, 10, 11, 15, 20, 22, 25, 27, 28, 30, 32 and 35 as follows.

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*1. (Once Amended) A computer, comprising:

a clock module, said clock module produces [for producing] a clock signal having two or more different frequencies;

a processor[,] operatively connected to said clock module, [for processing] said processor processes instructions in accordance with the clock signal; [and]

a temperature sensor[,] operatively connected to said clock module, [producing] said temperature sensor produces a temperature signal based on the temperature of said processor; and

an activity detector operatively connected to said processor, said activity detector monitors activity of said processor,

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wherein the frequency of the clock signal [supplied to] utilized by said processor varies depending on the temperature and the activity of said processor.

2. Canceled.

3. A computer as recited in claim 1, wherein said temperature sensor is thermally coupled to said processor.

4. A computer as recited in claim 1, wherein said temperature sensor is integral with the circuitry of said processor.

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*5. (Once Amended) A computer as recited in claim 1, wherein said computer is a portable computing device, and wherein said processor is a microprocessor.

*6. (Once Amended) A computer [as recited in claim 1], comprising:

a clock module, said clock module produces a clock signal having two or more different frequencies;

a processor operatively connected to said clock module, said processor processes instructions in accordance with the clock signal;

a temperature sensor operatively connected to said clock module, said temperature sensor produces a temperature signal based on the temperature of said processor; [wherein said computer further comprises:]

a fan; [and]

a fan controller, said fan controller controls the speed of the fan in accordance with the [chip] temperature of said processor,

wherein the frequency of the clock signal supplied to said processor varies depending on the temperature of said processor.

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*7. (Once Amended) A clock control apparatus for a microprocessor, comprising:

a temperature sensor coupled to [said] the microprocessor to monitor a chip temperature of the microprocessor and to produce a temperature signal in accordance with the chip temperature; [and]

an activity detector, said activity detector monitors activity of the microprocessor; and

a clock unit[,] operatively connected to said temperature sensor, [for producing] said clock unit produces a clock for the microprocessor, the clock having a frequency [dependent upon] that varies in accordance with both the activity and the chip temperature of the microprocessor.

*8. (Once Amended) A clock control apparatus as recited in claim 1, wherein said clock unit comprises a voltage-controlled oscillator (VCO), said VCO receives a chip temperature signal from said temperature sensor and produces the clock having a frequency [dependent upon] that varies in accordance with both the activity and the chip temperature.

9. Canceled.

*10. (Once Amended) A clock control apparatus as recited in claim 1, wherein said temperature sensor and said clock unit are integral with said microprocessor[,

, wherein said clock control apparatus further comprises detection means for monitoring activity of the microprocessor, and

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wherein the clock produced by said clock unit has its frequency dependent upon both the activity and the chip temperature].

11. Canceled.

12. Canceled.

13. Canceled.

14. Canceled.

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*~~15~~. (Twice Amended) A method [as recited in claim 11,] for producing a clock for a microprocessor, said method comprising:

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(a) monitoring chip temperature of the microprocessor; [wherein said method further comprises]

(b[d]) monitoring activity of the microprocessor;

(c) producing a clock signal having a frequency which varies in accordance with the chip temperature and the activity of the microprocessor; and

(d) supplying the clock signal to the microprocessor [and wherein the frequency of the clock signal produced

by said producing (b) varies based on the chip temperature and the activity of the microprocessor].

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~~16~~. (Once Amended) A method as recited in claim ~~15~~, wherein the clock signal has an overdrive clock frequency when certain activity is present and the chip temperature is below a predetermined temperature.

17. Canceled

18. Canceled

19. Canceled

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*~~20~~. (Once Amended) A method as recited in claim [11] ~~15~~, wherein said method further comprises [(d)] (e) producing a [variable-]speed control signal for a fan with the speed being dependent on the chip temperature.

21. A method as recited in claim 16, wherein the certain activity is a cache miss.

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*~~22~~. (Once Amended) A method for producing a clock signal for a microprocessor, said method comprising:

(a) providing a fast clock signal;

(b) providing a slow clock signal;

(c) receiving a control signal related to the temperature of the microprocessor; and

(d) selecting between the fast clock signal and slow clock signal in accordance with the control signal,

wherein the control signal is indirectly related to the temperature of the microprocessor, and

wherein the control signal is influenced by activity of a fan associated with the microprocessor.

23. Canceled.

24. Canceled.

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*~~25~~. (Once Amended) A method as recited in claim ~~22~~,

wherein the control signal is related to an anticipated temperature of the microprocessor, and

wherein the fast clock signal has a frequency greater than that of the slow clock signal by an integer multiplier.

26. Canceled.

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*~~27~~. (Once Amended) A method as recited in claim [26] ~~30~~, wherein the clock signal varies directly or indirectly with the chip temperature.

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*~~28~~. (Once Amended) A method [as recited in claim 27] for producing a clock for a microprocessor, said method comprising:

(a) producing a clock signal having a frequency which varies in accordance with the chip temperature; and

(b) supplying the clock signal to the microprocessor,

wherein the frequency of the clock signal is influenced by activity of a fan associated with the microprocessor which serves as an indicator of the chip temperature.

29. A method as recited in claim 28, wherein said producing (a) comprises:

(a1) receiving a high frequency clock; and

(a2) dividing the high frequency clock by an integer number when needed to avert overheating by said processor.

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*~~30~~. (Once Amended) A method [as recited in claim 26] for producing a clock for a microprocessor, said method comprising:

(a) producing a clock signal having a frequency;

(b) supplying the clock signal to the microprocessor; and[, wherein said method further comprises]

(c) monitoring activity of the microprocessor, [and]

wherein the frequency of the clock signal produced by said producing (a) varies based on the chip temperature and the activity of the microprocessor.

31. A method as recited in claim 30, wherein the clock signal has an overdrive clock frequency when certain activity is present and the chip temperature is below a predetermined temperature.

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*~~32~~. (Once Amended) A computer, comprising:

a clock module for producing a clock signal having two or more different frequencies;

a processor, operatively connected to said clock module, for processing instructions in accordance with the clock signal;

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an activity detector for detecting activity of said microprocessor;

a fan for cooling said processor; and

a control signal supplied to said clock module to cause said clock module to lower the frequency of the clock signal when needed to avert overheating by said processor or when said activity detector requests that the frequency of the clock signal be lowered.

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33. A computer as recited in claim 32, wherein the control signal is dependent upon measured or anticipated temperature of said processor.

34. A computer as recited in claim 32, wherein said clock module and said processor are integral.

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*~~35~~. (Once Amended) A computer as recited in claim ~~32~~, [wherein said computer further comprises an activity detector for detecting activity of said microprocessor, and] wherein said clock module increases the frequency of the clock signal above a normal operating frequency when both certain activity detected by said activity detector and said control signal is not requesting said clock module to lower the frequency of the clock signal.

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Please **ADD** new claim 36-44 as follows:

--~~36~~. (New) A computer as recited in claim ~~32~~, wherein the frequency of the clock signal is influenced by activity of said fan which serves as an indicator of the chip temperature.

~~37~~. (New) A computer as recited in claim 1, wherein the frequency of the clock signal supplied to said processor is reduced as needed to avert overheating of said processor.

~~38~~. (New) A computer as recited in claim 6, wherein the frequency of the clock signal supplied to said processor is reduced as needed to avert overheating of said processor.

~~39~~. (New) A clock control apparatus as recited in claim ~~1~~, wherein the frequency of the clock is reduced as needed to avert overheating of said the microprocessor.

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~~40~~. (New) A method as recited in claim ~~15~~, wherein the frequency of the clock signal is reduced as needed to avert overheating of said microprocessor.

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~~41~~. (New) A method as recited in claim ~~15~~, wherein said producing (c) includes at least:

(c1) receiving a first clock and a second clock, the first clock having a frequency greater than a frequency of the second clock by an integer multiplier; and

(c2) selecting the second clock if the chip temperature exceeds a predetermined temperature, otherwise selecting the first clock.

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~~42~~. (New) A method as recited in claim ~~41~~, wherein said producing (c) further includes at least:

(c3) selecting one of the second clock, a clock with a frequency less than the second clock and an off clock if there is less than a predetermined amount of activity at the microprocessor, regardless of the clock selection by said selecting (c2).

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43. (New) A method as recited in claim 15, wherein the frequency of the clock signal is altered in real-time as the chip temperature changes.

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44. (New) A method as recited in claim 30, wherein when the chip temperature exceeds a first predetermined temperature, the frequency of the clock signal produced by said producing (a) is reduced to avert overheating of the microprocessor, and thereafter, when the chip temperature falls below a second predetermined temperature, the reduced frequency of the clock signal produced by said producing (a) is increased to provide greater processing performance of the microprocessor.--